

General Wild Life Conservation Problems in India

BY

J. JUAN SPILLETT

(With two plates)

CONTENTS

I. INTRODUCTION	616
II. DOMESTIC LIVESTOCK	617
III. ENCROACHMENT AND EXPLOITATION IN NATIONAL PARKS AND SANC- TUARIES	621
IV. POACHING	623
V. LAW ENFORCEMENT	625
VI. EDUCATION	627
VII. LITERATURE CONSULTED	628

I. INTRODUCTION

Many people have the mistaken idea that conservation means the 'locking up' of natural resources so that they cannot be utilized and hence are of no value to anyone. This is not true. In extreme cases conservation may be synonymous with preservation, such as when an attempt is made to save a threatened species from extinction. However, conservation basically means the wise *use* of natural resources so as to provide the greatest benefit to the greatest number of people in the long run. Therefore, true conservation involves both the use and the preservation of natural resources, which when destroyed oftentimes cannot be replaced.

Can you imagine a farmer not retaining a portion of his harvest or at least ensuring that he will have seed for the forthcoming year? However, the livestock grazier often permits his livestock to devour every available blade of grass or all of the vegetation without realizing that at least 25% of the forage plants should be left to provide seed, as well as protection for next year's forage crop.

Likewise, the poacher rarely thinks of leaving sufficient breeding stock for next year's game harvest.

India has been richly endowed with precious natural resources. Many of these, however, already have been destroyed or lost due to ignorance, tradition, apathy, or political expediency. On every side the remaining natural resources of this country are confronted with what often appear to be insurmountable barriers. Unless the leaders of India are soon able to implement definitive measures and initiate sound conservation practices, little more than want and poverty and the eventual weakening of this great nation can be expected.

II. DOMESTIC LIVESTOCK

India is basically confronted with two major problems. I firmly believe that if these were brought under control, the numerous other problems which are presently receiving so much attention and publicity, such as the scarcity of food, lack of foreign exchange, poor living standards, and so forth, would eventually resolve themselves. Ironically neither of these problems is a lack of something. In fact, both are a matter of having too much of a resource. These two problems are: (1) too many people, and (2) too much domestic livestock. The former is recognized by the Government and is gradually becoming recognized by the general public as a major problem. Steps are being taken to bring India's population explosion under control. However, the latter problem, that of overgrazing by domestic livestock, is not even recognized as a problem by the vast majority of the people. And those that do recognize it as such are doing little, if anything, about it.

Overgrazing by domestic livestock is like cancer—it often overcomes its victims without them even becoming aware of its presence until it is too late. Unless an area is drastically abused, people not trained in conservation or range management may not be able readily to distinguish an overgrazed area from one that is in good condition. It must be realized that animals, both domestic and wild, cannot thrive on just any available greenery. They, like humans, must have a balanced diet of both palatable and nutritious forage to remain healthy and vigorous.

With the abuse of overgrazing, the most palatable or desirable plants are the first to disappear. They are followed in turn by the next most desirable plants and so on until eventually all that remain are plants which the animals would not normally eat, let alone depend

upon for a staple diet. All too often the whole ecology, hence both the floral and faunal composition, of entire regions have been changed by the unwise practice of overgrazing. Nature wisely placed checks or balances, such as predators, to control grazing by wild animals. However, with his domestic animals, man often fails to recognize the facts that nature has repeatedly demonstrated to him. As a result, forests are turned into deserts and choice grasslands are converted into barren wastes.

When discussing the all too common problem of overgrazing in India's forests and sanctuaries, I am almost invariably told by officials that the problem is realized, but that it is impossible to control grazing by domestic animals in a democracy such as India's. This is faulty reasoning. No government, particularly a democratic one, should permit its people to destroy the nation's most priceless possession—its land. Many feel that in a democracy public property belongs to everyone. But this does not mean that the people are free to destroy the public domain. For example, a public building belongs to everyone just as much as does a reserved forest or a wild life sanctuary. However, no one is allowed to destroy such buildings or to remove materials from them for private use.

The destruction of public forests and lands by men and their livestock is of greater consequence and the effects are much more drastic and longer lasting than the destruction of any public building. A building can be rebuilt in a relatively short time, but a forest converted into a desert or the loss of a single inch of precious top soil cannot be restored or may take centuries to replace. Must an entire nation suffer because of land abuse by a relatively few people and their livestock?

I have so far discussed the threat from overgrazing to India as a whole. Now what about one of her most valuable natural resources, her wild life? Domestic livestock grazing presents a triple threat to wild life: (1) direct competition, (2) diseases and parasites, and (3) disturbances.

Many wild ungulates, like domestic livestock, are primarily grazers. Therefore, when the two inhabit the same area there is direct competition for forage. Domestic livestock may be provided with supplementary feeds, particularly during times of drought or hardship. The wild animals, on the other hand, must depend entirely upon the available forage. Therefore during 'bottle-neck' periods, such as drought and flood, they often have to struggle to survive. This is particularly true if they inhabit overgrazed areas.

Whenever animals are in close proximity to each other there is

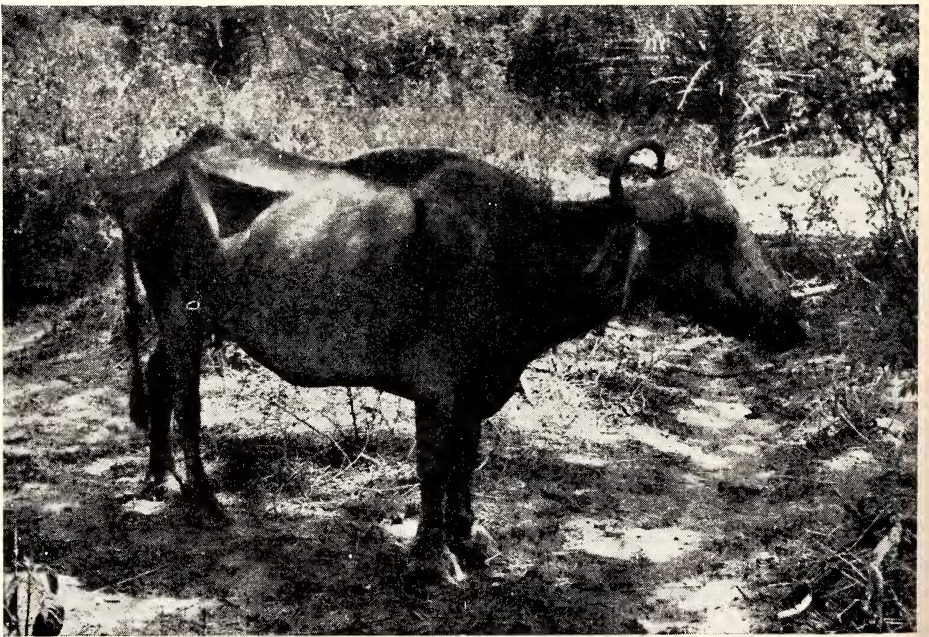
Spillett : Conservation Problems in India



Above : Domestic livestock grazing inside a forest. *Below :* Part of a wild life sanctuary overgrazed by domestic livestock.

(Photos : J. Juan Spillett)

Spillett : Conservation Problems in India



Above : Typical rural scene—too much livestock (Photo : E. P. Gee). *Below* : Is an aged domestic animal like this of any value (Photo : J. Juan Spillett)

the possibility of disease or parasite transmission. Through centuries of adaptation, many domestic animals have become resistant or immune to diseases which often prove fatal to their wild relatives. Therefore the presence or introduction of domestic animals into areas inhabited by wild life presents the threat of introducing diseases or parasites, which may prove disastrous to wild populations.

Precautions should be taken to prevent the incidence of disease among domestic animals. These measures include: (1) the inoculation of livestock for the prevention of disease, (2) the immediate removal and disposal of unhealthy or sick animals, and (3) the maintenance of good forage conditions so that animals can maintain their health and vigour to resist disease. It should be noted that there are as yet no effective vaccines to combat diseases such as foot-and-mouth disease. The presence of diseases of this nature may take a heavy toll of both wild and domestic animals.

Mr. E. P. Gee (1955) reported:

'There are innumerable cases of valuable wild animals dying wholesale from epidemics spread by domestic cattle and buffaloes. In Kaziranga Sanctuary of Assam, for example, many rhino died in 1944 and in 1947, presumably from anthrax; and some wild buffalo died in 1952 from rinderpest, and in 1953 from haemorrhagic septicemia. As many as 150 wild elephants are believed to have died in the Reserved Forests of the North Cachar Hills in Assam in 1949 from anthrax. The "Indian bison" or gaur have become scarce in many places in north-east India and south India due to cattle-borne diseases.

'In the Hailey (Corbett) National Park, moreover, I was informed that there were severe outbreaks of rinderpest in 1942 and 1947, in which countless chital are reported to have perished, and probably hog deer, barking deer and sambar as well.'

The grazing of domestic livestock also invariably requires or results in the presence of herders and other people. These often create disturbances which some wild animals cannot tolerate. This is particularly true during certain seasons of the year, such as the mating or calving periods of particular species. Undue disturbances during these times may so alter the normal behaviour patterns of some wild animals that they will dwindle in numbers and eventually disappear from an area. For example, many animals prior to mating have extended periods of courtship or displays which ensure that their mating is successful. However, if courting animals are repeatedly disturbed, they may never mate successfully. As a result, there will be no offspring. Also females with recently born young often abandon them if they are frequently disturbed or if their young are touched by humans.

Admittedly domestic livestock forms an important and necessary part of a nation's economy. But it is generally recognized that in most parts of India where domestic animals are grazed, severe over-

grazing is the general practice. Primarily due to overgrazing by domestic livestock, India already has the notoriety of having created the largest man-made desert in the world. Also, due to continued land abuse, the Rajasthan Desert continues annually to enlarge its boundaries. Certain supposedly learned men still continue to advocate that India needs more livestock. Why?

It is a historical fact that more nations have fallen because of land abuse, such as overgrazing by domestic livestock, than by all other factors combined, political or otherwise. Tradition and false sentiment must be replaced by sound management, based upon facts, if a nation is to thrive and flourish. The misconception that numbers of animals determines wealth must be replaced by the fact that quality, not quantity, is the goal to be achieved.

The average milch cow in India produces less than one litre of milk per day. Whereas in many developed nations, such as the Netherlands, it has been found uneconomical to keep a cow that does not produce over 20 litres of milk per day. Most of India's valuable forage is being used just to maintain domestic animals, with little or no return to their owners for their financial investment. A single well-fed animal will often be of greater value and give a much greater return than ten or more poorly-fed animals. Also, present schemes to improve the breeds of domestic livestock in India will be of little value unless there is sufficient good quality forage to maintain such animals in a healthy and vigorous condition.

Draft animals or bullocks are also important in an agricultural economy such as India's. But all too often one sees large numbers of livestock, the majority of which are unfit for work, which do not produce any milk, and even are many times unable to breed. It is their lot to continue denuding, as best they can, an already almost sterile land, giving little or nothing in return until they eventually die from starvation or disease.

India's first Prime Minister, Mr. Jawaharlal Nehru, stated the following in the foreword to Mr. E. P. Gee's notable book (*THE WILD LIFE OF INDIA*):

'In India, perhaps even more than in other countries, there is this difference between precept and practice. In no country is life valued in theory so much as in India, and many people would even hesitate to destroy the meanest or the most harmful of animals. But in practice we ignore the animal world. We grow excited about the protection of the cow. The cow is one of the treasures of India and should be protected. But we imagine that we have done our duty by passing some legislation. This results not in the protection of the cow but in much harm to it as well as to human beings. Cattle are let loose and become wild and become a danger not only to crops but to human beings. They deteriorate and the very purpose for which we value the cow is defeated.'

Grazing by domestic livestock must be controlled. The time to act is now. Tomorrow may be too late. Tradition, false sentiment, apathy and political expediency must be replaced by sound conservation practices based upon facts if this nation is to thrive and flourish.

III. ENCROACHMENT AND EXPLOITATION IN NATIONAL PARKS AND SANCTUARIES

Certain people in India today may be advocating the elimination of wild life sanctuaries and the cultivation of forest lands. They contend that a 'poor' nation such as India, particularly during the present food crisis, cannot afford 'luxuries' such as wild life sanctuaries or even forests. On the other hand, experts state that to maintain the basic economy of a nation a 'minimum of 1.0 acre of forests *per capita* must be perpetually maintained. India presently has only 0.54 acre *per capita* and many lands classified as forest lands are little more than barren wastes. 'Poor' nations, such as India, cannot afford *NOT* to have sanctuaries, parks, and forests!

Most of the best agricultural lands in India have been under cultivation for centuries. Attempts to cultivate the relatively few remaining forest areas, the vast majority of which are on marginal lands, will eventually result not in increased food yields, but in the destruction of other lands better suited to agricultural use. It is difficult for many to realize that the wanton destruction of forests and grasslands by such practices as overgrazing, or the cultivation of marginal agricultural lands, usually results in drought, such as India has just recently experienced, followed by devastating floods, which under the present practices of land abuse she may expect in the near future.

The presence of sufficient natural or well-managed forests modifies climatic extremes, builds or enriches the soil, and prevents water run-off, erosion, and floods. The existence of a forest may lower the temperature in that area as much as 30° F. during the summer months, while making it as much as 10° F. warmer during the cold winter months. Forest vegetation and humus gradually release their water, which is stored during the rainy season. Therefore, their presence helps to eliminate periods of devastating flood followed by periods of drought.

India has been endowed with some of the most extensive and richest agricultural lands in the world. However, in the use of these lands she has the notoriety of producing lower crop yields than any other country in the world. Nevertheless, she presently produces

enough food to feed her almost 500 million people. But due to primitive farming methods, waste in harvest and storage, and losses to birds, rodents, and insects, she must invariably seek aid from abroad.

Rodent studies, which I conducted in Calcutta between October 1964 and January 1966, demonstrated that in an average Calcutta grain storage godown rats were daily destroying the rations of over 10 human beings. International agencies, such as FAO (Food and Agricultural Organization of the United Nations), have estimated that the annual loss of food grains in India to rodents alone is probably about 30% of the total production. If food losses to rodents were controlled, even with her present food production India could be a food-exporting nation. Agricultural experts claim that many farm lands in India could easily quadruple their present yields. Even if yields were only doubled, India could become the greatest food-exporting nation in the world! There is little or no ecologically or economically sound basis upon which to advocate overgrazing or the agricultural use of wild life sanctuaries, parks, or reserved forests.

It may be argued by some that forest products inside sanctuaries or parks should be exploited. However, if such is permitted, where is the line to be drawn? If the cutting of thatch and reeds is allowed in one area, how can it be prohibited in others? Or, if such cutting is permitted, why not permit the cutting of trees? If people are allowed to collect dead wood for fuel, how can they be restrained from making dead wood out of live? If fishing is allowed, then why can't the other animals also be harvested? Each of these activities disturbs the wild life. If such activities are permitted, the area no longer remains as a sanctuary or park. Instead, it soon becomes only another depleted area—like too many thousands of others throughout India.

Numerous examples could be cited of how the flora and fauna in many of India's sanctuaries has been completely devastated by the ever-increasing demands of the local people for the exploitation of their natural resources. The results in many cases have been the conversion of once beautiful and choice areas, with great economic potential, into little more than deserts which are of little value to anyone. India is a huge country endowed with vast natural resources, many of which have already disappeared or have been lost due to political expediency or to a lack of understanding as to the true meaning of conservation. Isn't India large enough so that at least a remnant of its wild places, with both their native flora and fauna, can be maintained in their natural state as a part of the nation's heritage?

IV. POACHING

Poaching is in reality an uncontrolled and generally non-selective type of predation. When legalized and properly managed it becomes known as shooting or hunting. Selective harvesting of game animals in many areas is an important and even a necessary part of wild life conservation. Shooting, however, should always be controlled and based upon conservation principles, which ensure that the species involved will be maintained on a sustained yield basis. Poaching, combined with habitat abuse or destruction, has presently attained such proportions in much of India that with many species of Indian wild life it is now more a matter of preservation rather than sustained yield management. It is also imperative that at least a few select areas be maintained, in so far as is possible, in their natural state. These generally are recognized as national parks or wild life sanctuaries. Besides serving as tourist attractions and recreational areas, these also serve as outdoor laboratories and as a gauge with which to compare management practices in areas where shooting is permitted. I regret to report that at present many Indian sanctuaries dedicated to this end appear to be little more than glorified shooting camps. I have occasionally blundered into situations, while visiting India's wild life sanctuaries, which I am sure that officialdom and the general public do not realize exist.

Those participating in shooting, as it should be practised, often gain an insight as to the value and beauty of wild life. As a result, many of today's most avid conservationists are sportsmen who, through their outdoor experiences or shooting, have come to realize some of the problems faced by the country's dwindling wild life and hence are some of the most staunch advocates of wild life conservation. The poacher, on the other hand, usually fails to recognize that through his unethical practices he is eliminating one of his present sources of food or income. Also, with ever increasing pressures from human population, it is imperative in many cases that the rifle be replaced by the camera and the note-book if even remnants of the nation's wild life are to be preserved for the enjoyment of future generations.

The poacher in some cases is also reducing the grazing capacity of the land. This may at first sound ironical, particularly when you consider that he is subtracting rather than adding animals. However, through the aeons of time nature has evolved what is often termed 'the balance of nature'. Nevertheless, this is a dynamic 'balance', which is kept on an even keel by numerous natural checks. Generally

speaking, each plant and animal species in a natural environment plays a specific or special role in the overall scheme of nature. For example, some animals feed upon particular plants, while others prefer different ones. Then, of course, the predatory animals prey upon the herbivores so that they will not overly abuse the forage. Thereby, in a natural community the plants and animals are interrelated and the entire habitat is usually used to its full potential.

The African Black Rhinoceros (*Diceros bicornis*), in contrast to the Great Indian One-horned Rhinoceros, is primarily a browser. It feeds to a great extent upon thorny shrubs, which are unpalatable to most ungulates. By keeping such shrubs in check, it has been observed that the carrying capacity for grazing ungulates in a given area is often increased by the presence of the Black Rhinoceros. Livestock graziers in North America for many years advocated the removal of deer from their cattle grazing areas. They thought that their removal would result in more forage for their domestic livestock. However, just the opposite was found to be true. The deer species concerned were primarily browsers, while the cattle were grazers. The deer held the shrubs or woody plants in check and thereby favoured the growth of grass and increased the grazing capacity of the range for cattle. As a result, most cattle graziers in North America presently welcome deer on their grazing lands. In short, except in national parks and wild life sanctuaries, wild life conservationists do not advocate that livestock grazing be abolished. But that both the livestock and the wild life be properly managed so as to provide the greatest benefit for everyone.

Mr. E. P. Gee (1964) related how wild life conservation is somewhat of a tradition in the long history and culture of India. The treatise on Statecraft called the ARTHA SHASTRA, attributed to Kautilya about 300 B.C., provided for the protection of certain forests and their wild life. Also, in 242 B.C. the Emperor Asoka's fifth pillar edict gave protection to fish, animals, and forests. The rulers of many of the princely states also practised conservation in order to ensure the continuance of big and small game shooting. Since Independence in 1947, however, much of this good work has been undone by some people who, believing that the wild animals are rightfully theirs, sally into the forests to massacre whatever they can find. The most effective deterrent for poaching is conservation education. In its absence or until it can be universally achieved, the only remedy is strict law enforcement. These will be discussed in more detail in the following pages.

The poacher is actually a thief. He is stealing from his fellow

citizens of both today and tomorrow that which is rightfully theirs. Unless his depredations are soon brought under control, much of India's priceless and irreplaceable wild life will be lost forever. Man may again build a Taj Mahal, but once he exterminates a living species—that creature is lost forever.

V. LAW ENFORCEMENT

Many people, particularly in some of the relatively new democratic nations, have the mistaken idea that democracy means that everyone is free to do as he pleases. Oftentimes they think that, because the public domain belongs to everyone, they have the right to take what they want from it. For example, many simple people feel that when they illicitly take natural resources from sanctuaries or reserve forests they are only taking that which rightfully belongs to them. This is not true. Democracy is dependent upon law and order and no one has the right to infringe upon the rights of others. Democratic laws are established not only for the maintenance of order, but also for the protection of the innocent and the punishment of the guilty. Although the public domain does belong to everyone, it is held in trust by the Government or, appointed departments for the benefit of all—not just for the benefit of the few that take it upon themselves to take from it what they can.

Democratic laws are formulated by elected representatives of the people. Therefore, it behoves each and every citizen to strive to elect men that will formulate only good and just laws. If a law that is in force is not just, a loyal citizen will do all that is *legally* within his power to have it changed or repealed. But while so doing, he does not have the right to break that law.

The Forest Department is charged with the protection and management of all State forest lands, including parks and wild life sanctuaries, for the maximum benefit of the public. In order to meet these obligations, rules and regulations have been established both as guides to the public and for the Forest Department personnel. In turn, the Forest Department staff is charged with the responsibility of enforcing these rules and regulations. If a Forest Department officer knowingly permits their violation, he also becomes an offender and should be recognized as such. Negligence in protecting the public domain should not be tolerated.

Forest Department personnel, however, should be delegated sufficient legal authority to enforce the law in areas under their

jurisdiction. In many cases they do not have such authority. For example, many Forest Guards are armed, but they are not permitted to use these arms in enforcing the law, but only as a means of self-defence. At present even when a person is detected in the act of committing a violation they merely have to flee in order to avoid being taken into custody and to escape punishment. The most a Forest Officer can do is to attempt to apprehend the law-breaker by peaceful means. By so doing he runs the risk of bodily injury to himself and gains nothing in return for apprehending the culprit. As a result, relatively few people that violate the laws of the public domain are taken into custody and even fewer are tried by a court of law for their offences.

Violations, such as the cutting of thatch or reeds, gathering of firewood or even poaching in a wild life sanctuary, may be considered by many as only minor offences. However, it should be recognized by all that resisting or attempting to avoid arrest by an authorized representative of the law, such as a Forest Guard, is a major offence and should be dealt with severely. Although the taking of life should never be advocated, surely a public servant charged with the protection of the public domain should have the legal right to use force, if necessary, to carry out his duties. This might include, if need be, the shooting (only to injure) of violators attempting to avoid arrest. For example, if a Forest Guard encounters someone violating the laws of a sanctuary, he should inform them in a loud clear voice that they are under arrest. If the violator attempts to flee, a warning shot should perhaps first be fired and, if the person does not then halt, it is clearly evident that they are resisting arrest, which is a major offence. The Forest Guard should then have the legal right to do all in his power, including the use of force or firearms, to take the person into custody. Acting as a representative of the Government, he should also be absolved of any responsibility for injuries to others resulting from his action in attempting to enforce the law. However, those taken into custody should never be abused and as quickly as possible should be turned over to the civil authorities and brought before a court for trial.

A system of rewards and punishments should also be established, if not already in force. If Forest Department personnel take determined action and the risks involved in apprehending and taking into custody those violating the law, they should be rewarded for their efforts. This would also provide an added incentive to personnel better to meet their obligations as custodians of the public domain.

Determined action must be taken to ensure that Forest Department